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METHOD FOR MANUFACTURING ANTI-BACTERIA YARNS AND ANTI-BACTERIA YARNS MADE FROM THE METHOD

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BACKGROUND OF THE INVENTION

1) FIELD OF THE INVENTION

5 The present invention relates to anti-bacteria yarns, and particular to a method for manufacturing anti-bacteria yarns and the yarns manufactured from the method.

2) DESCRIPTION OF THE PRIOR ART

10 Conventionally, fabrics have many functions, such as wiping, absorbing sweat of the body and thus draining the sweat from the body. However, often germs are adhered to the surface of the fabrics so as to hurt the users, such as corroding respiratory organs and skins or induce diseases. Conventionally, sterilizing process is used to fabric product, but this cannot avoid the germs to be adhered on the surfaces of the fabrics, thereby
15 anti-bacteria process is used.

In the prior art anti-bacteria process, the antibacterial is permeated into fabrics so as to be bonded to the fabrics (referring to Fig. 1). A surface of the fabric is formed with a fine needle-like protecting layer G1. By mechanic stabbing, the microorganism K near the protecting layer G1 will
20 be pierced to fall out from the fabric so as to achieve the object of anti-bacteria.

Conventionally, to adding antibacterial to yarns or fabrics likes the dying process. The yarns or fabrics are sunk in antibacterial or sputtered with antibacterial. The difficult of this process is that the adding process
25 is completely isolated from other manufacturing process of the fabrics. In the process, the manufacturers must transfer, sink (or sputter), drying the yarns or fabrics. These extra steps make the process to be time and labor consumed so that the cost of the yarns or fabrics is expensive.

Moreover, the sputtering process induces a weak fastness so that the

anti-bacteria effect is not preferred, while the sinking process will induce that too much antibacterial is permeated into the yarns or fabrics so that too much the antibacterial is used (referring to Fig. 1) and a longer time is required to dry the yarns or fabrics. Moreover, the products are hard so that a bad feeling is presented.

SUMMARY OF THE INVENTION

Accordingly, the primary object of the present invention is to provide a method for manufacturing anti-bacteria yarns. The method comprises the following steps of fabricating the polypropylene filaments into yarns; feeding the yarns to a false twisting machine for twisting the yarns; in that the yarns pass through a driving roller and a package roller for twisting the yarns to be as twisting yarns; feeding the twisting yarns to at least one grooved roller with antibacterial in the grooved roller so as to be as anti-bacteria yarns; feeding the anti-bacteria yarns to at least one guiding wheel to be stretched and drying the anti-bacteria yarns, and then outputting the yarns. Moreover, an anti-bacteria yarn made from polypropylene filaments is disclosed. The antibacterial yarns are twisted, and permeated with antibacterial.

The various objects and advantages of the present invention will be more readily understood from the following detailed description when read in conjunction with the appended drawing.

BRIEF DESCRIPTION OF THE DRAWINGS

Fig. 1 is a schematic view of prior art wet absorption yarns.

Fig. 2 shows the flow of the present invention.

Fig. 3 is an enlarged cross section view of the grooved roller of the present invention.

Fig. 3-A is a lateral view of Fig. 3.

Fig. 4 is another enlarged cross section view of the grooved roller of the present invention.

Fig. 4-A shows a lateral view of Fig. 4.

Fig. 5 is a schematic view showing the yarns of the present invention.

Fig 5A is an enlarge view of a part of Fig. 5 showing the details of the yarn.

DETAILED DESCRIPTION OF THE INVENTION

Referring to Fig. 2 and Figs. 3 and 3A, the method for manufacturing anti-bacteria yarns and the product from the same are illustrated. The yarns are made from polypropylene filaments without capillary pores thereon. The method comprises the following steps of:

Fabricating the polypropylene filaments into yarns R;

Feeding the yarns to a false twisting machine 1 for twisting the yarns; in that the yarns pass through a driving roller 11 and a package roller 12 for twisting the yarns to be as twisting yarns R1.

Next, feeding the twisting yarns R1 to at least one grooved roller 2 as anti-bacteria yarns R2.

Next, feeding the anti-bacteria yarns R2 to at least one guiding wheel 3 to be stretched and drying the anti-bacteria yarns R2, and then outputting the yarns.

In the bottom 21 of a trench of the grooved roller 2 is placed with antibacterial P (referring to Figs. 3 and 3A). When the twisting yarns R1 passes through the grooved roller 2, the liquid antibacterial P will permeate into surfaces of the twisting yarns R2. The antibacterial P will be completely adhered to the yarns in the following stretching process. Thereby, cloth made of this yarns R2 will have functions of anti-bacteria.

In the stretching and drying process by the guiding wheel 3, the antibacterial P will be bonded to a surface of the twisting yarns R1 so that

the surface of the yarn is formed with an anti-bacteria structure with fine needle-like protecting layer P1 (referring to Fig. 5). Thereby, the surface of the fabric R3 (referring to Fig. 5-A) with the antibacterial P of the present invention may pierce bacteria near the fabric by the protecting layer P1 on the surface of the anti-bacteria yarn R2 through mechanic stabbing. Thereby, the microorganisms will fall out from the surface of the fabric (referring to Fig. 5).

In the present invention, the antibacterial P is uniformly fed to the grooved roller 2 and then coated on a surface of the bottom 21 of the grooved roller 2. The twisting yarns R1 is fed into the grooved roller 2 continuously so that the antibacterial P in the bottom 21 will be coated on the twisting yarns R1 from the upper side of the twisting yarns R1.

Moreover, as shown in Figs. 4 and 4-A, a material inlet 22 is formed at a center of the grooved roller. A plurality of penetrating holes 221 are formed around the material inlet 22 so that the antibacterial P can be fed into the material inlet 22. With the rotation of the grooved roller, the antibacterial P will flow to a surface of the bottom 21 of the grooved roller 2 so as to be coated on the twisting yarns R1 continuously.

Although the present invention has been described with reference to the preferred embodiments, it will be understood that the invention is not limited to the details described thereof. Various substitutions and modifications have been suggested in the foregoing description, and others will occur to those of ordinary skill in the art. Therefore, all such substitutions and modifications are intended to be embraced within the scope of the invention as defined in the appended claims.